

Amendment to Claims

1-46 (canceled).

47 (previously presented). The method of Claim 49 wherein the regions adjacent to the contact pads are less solder wettable than the contact pads.

48 (previously presented). The method of Claim 49 wherein the regions adjacent to the contact pads are dielectric regions.

49 (currently amended). A manufacturing method comprising:
forming one or more conductive contact pads in a first substrate at a top surface of the first substrate;

forming dielectric over the ~~one or more contact pads~~ top surface, with the dielectric having one or more openings which overlie the contact pads and also overlie one or more regions adjacent to the contact pads;

placing solder paste into the one or more openings; and

heating the solder paste in the one or more openings to melt the solder and to solder one or more contact pads of a second substrate to the one or more contact pads of the first substrate with solder obtained from the solder paste, the dielectric being present over the top surface of the first substrate during soldering.

50 (canceled).

51 (currently amended). The method of Claim [[50]] 49 wherein the second substrate is a semiconductor integrated circuit.

52 (previously presented). The method of Claim 49 wherein the first substrate is a semiconductor integrated circuit.

53 (previously presented). The method of Claim 49 wherein the first substrate is an integrated circuit packaging substrate which does not include a semiconductor substrate.

54 (canceled).

55 (previously presented). The method of Claim 57 wherein the second portion is less solder wettable than the first contact pad.

56 (previously presented). The method of Claim 57 wherein the second portion is dielectric.

57 (currently amended). A manufacturing method comprising:
forming one or more conductive contact pads in a first substrate at a top surface of the first substrate, the one or more conductive contact pads including a first contact pad;

forming dielectric over the ~~one or more contact pads~~ top surface, with the dielectric having one or more openings, the one or more openings comprising a first opening, wherein each of the contact pads occupies at least a portion of a bottom surface of at least one of the openings, wherein the first contact pad occupies a first portion of the bottom surface of the first opening but does not occupy a second portion of the bottom surface of the first opening;

placing solder paste into the one or more openings; and

heating the solder paste in the one or more openings to melt the solder and to solder one or more contact pads of a second substrate to the one or more contact pads of the first substrate with solder obtained from the solder paste, the dielectric being present over the top surface of the first substrate during soldering.

58 (canceled).

59 (currently amended). The method of Claim [[58]] 57 wherein the second substrate is a semiconductor integrated circuit.

60 (previously presented). The method of Claim 57 wherein the first substrate is a semiconductor integrated circuit.

61 (previously presented). The method of Claim 57 wherein the first substrate is an integrated circuit packaging substrate which does not include a semiconductor substrate.

62 (previously presented). The method of Claim 49 wherein the solder paste is placed into the openings to fill the one or more openings.

63 (currently amended). The method of Claim 57 wherein the solder paste is placed into the openings after the forming of the dielectric over the ~~one or more contact pads~~ top surface.

64 (currently amended). A manufacturing method comprising:

forming a first substrate comprising one or more conductive contact pads at a top surface of the first substrate, the one or more conductive contact pads comprising a first contact pad;

forming dielectric on the first substrate, the dielectric having one or more openings, the one or more openings comprising a first opening, wherein each of the contact pads occupies at least a portion of a bottom surface of at least one of the openings, wherein the first contact pad occupies a first portion of the bottom surface of the first opening but does not occupy a second portion of the bottom surface of the first opening;

placing solder on the first substrate, the solder being located in each of the one or more openings, wherein said solder is not placed on the first substrate before the forming of the dielectric on the first substrate;

melting the solder in the one or more openings to solder one or more contact pads of a second substrate to the one or more contact pads of the first substrate with the solder while the dielectric is on the first substrate.

65 (previously presented). The method of Claim 64 wherein the solder is placed on the first substrate after the forming of the dielectric on the first substrate.

66 (previously presented). The method of Claim 64 wherein placing the solder on the first substrate comprises placing a solder paste containing the solder on the first substrate.

67 (previously presented). The method of Claim 64 wherein the second portion is less solder wettable than the first contact pad.

68 (previously presented). The method of Claim 64 wherein the second portion is dielectric.

69 (previously presented). The method of Claim 64 wherein at least one of the first and second substrates is a semiconductor integrated circuit.

70 (previously presented). A manufacturing method comprising:

forming a first substrate comprising one or more conductive contact pads at a top surface of the first substrate;

forming dielectric on the first substrate, the dielectric having one or more openings which overlie the contact pads;

wherein a top surface of each of the contact pads comprises a first conductive portion and a second conductive portion less solder wettable than the first conductive portion; and

wherein the one or more openings overlie both the first and the second conductive portions of at least one of the contact pads.

71 (previously presented). The method of Claim 70 further comprising:

placing solder on the first substrate, the solder being located in each of the one or more openings; and

heating the solder to melt the solder.

72 (previously presented). The method of Claim 71 further comprising soldering one or more contact pads of a second substrate to the one or more contact pads of the first substrate with the solder.

73 (previously presented). The method of Claim 71 wherein said solder is not placed on the first substrate before the forming of the dielectric on the first substrate.

74 (previously presented). The method of Claim 71 wherein the solder is placed on the first substrate after the forming of the dielectric on the first substrate.

75 (previously presented). The method of Claim 70 wherein at least one of the first and second substrates is a semiconductor integrated circuit.

76 (previously presented). The method of Claim 70 wherein the first substrate is an integrated circuit packaging substrate which does not include a semiconductor substrate.

77 (new). The method of Claim 71 wherein:

placing the solder on the first substrate comprises placing solder paste containing the solder into each of the one or more openings;

wherein the method further comprises contacting the solder paste with one or more contact pads of a second substrate; and

wherein heating the solder comprises, after contacting the solder paste with the one or more contact pads of the second substrate, heating the solder paste to melt the solder to solder the one or more contact pads of the second substrate to the one or more contact pads of the first substrate.

78 (new). The method of Claim 71 further comprising soldering one or more contact pads of a second substrate to the one or more contact pads of the first substrate with the solder while the dielectric is on the first substrate.